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This interlibrary loan study was done in 16 health care institutions during two weeks in November, 1967 and two weeks in March, 1968. Each interlibrary loan requester was asked to record what position he held (attending staff, resident, intern, other staff), and whether his request was related to patient care, teaching, continuing education, or research. The discussion covers the dependability of questionnaire information, who uses the service, need for and growth of the service, and use of the service by different groups of requesters. Among the conclusions reached are that (1) interlibrary loan service involves many factors and simple counts of users and requests are not useful for determining service policy, and (2) if access to scholarly records for health care is accepted as a requirement in hospital environments, perhaps an interinstitutional approach to planning for the access service would be more valuable than trying to define what a single hospital library ought to do or be. (CC)

WAYNE STATE UNIVERSITY
School of Medicine
Library
Biomedical Information Service Center

Report

No. 46

Study of the Use of Interlibrary Loan Service in Clinical Environments *

by

Vern M. Pings

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INTRODUCTION

Investigations of medical libraries which produce quantitative data have in nearly all cases been accomplished in one of two ways. First, a study of specific operations of one library is undertaken. The results of the investigation obviously relate only to the environment of the one library. Although the assumption can be, and is often, made that the library under study is a "typical" library and the results therefore are generalizable to other medical libraries, such an assumption goes counter to experience. For example, if it were possible to design or describe a model medical library, then it would seem that realistic "standards" could be written and generally applied by accrediting agencies in evaluating libraries, and serve as a basis for planning and managing medical library services. Standards and guidelines have been prepared for various purposes. Very few contain quantitative measures. Criticism of those who have tried to formulate standards and guidelines does not appear to cause the creation of a more astute or intuitively sensitive group of individuals who can produce a better formulation. The problem does not appear to lie with the writers, but rather with the fact very little dependable quantitative data exists on the function and operation of library services. Data that are available have been acquired primarily through the second investigative method.

The questionnaire and survey have been and are becoming an increasingly common method for gathering information about library operations and problems. For example, in a recent issue of College and Research Libraries eleven articles were published,(1) Five of these articles used a questionnaire and one other used an extensive interview-questionnaire approach to obtain the data for the content of the article. One article was a review of a series of surveys undertaken between 1951 through 1966. Of the remaining four articles, one was a report on circulation data of a specific library and the remaining three articles were what might be termed "think-pieces"; statements were made derived from the author's experience. Besides the difficulty of designing a questionnaire to get consistent answers and to get a return to insure an adequate and representative sample, the methodology as applied to library operations frequently does little more than describe what is.(2) What "most" libraries do, or what the average library does, gives little support for a particular library to determine if it should alter its practice and services.

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(1) Vol. 29, No. 6, Nov. 1968.

(2) An analysis of the library statistics, using standard statistical techniques on academic medical libraries published in the Bulletin of the Medical Library Association revealed that most of the statistics are redundant, and that very little use can be made of them for research, management, or even for comparative purposes. The results of this analysis are unpublished, but can be secured from the Institute for Advancement of Medical Communication, 3401 Market St., Philadelphia, Pa. 19104.

A methodological approach to the study of medical libraries used for the past four years in metropolitan Detroit is that of the viewpoint of a library network. Rather than studying individual library operations or summarizing a single operation of a group of libraries into a statistical average, an attempt is made to evaluate library service available to a population of a given area. From analyzing data collected from as many as 30 libraries the results clearly show that a comparison of one library to another only produces an hierarchical arrangement with respect to the specific one-time measurements. This in no way allows a library manager to determine what changes should be made in his library. Comparisons between institutions more often than not results in the veneration of size, volume counts, budgets, etc., rather than whether a library is performing adequately within its own institutional environment and relative to the purpose of the institution within the community.

Investigations in metropolitan Detroit so far have demonstrated that

1. Physicians are a highly mobile group and utilize many institutional facilities;

2. Students in the health professions similarly will often be assigned to different institutions during their training;

3. The need for access to the scholarly record for the delivery of health care and for research goes beyond the resources of any single library; (3)

4. If access to the scholarly record is needed for the support of health care, then it is obvious that access service must be provided in and through hospital and other health care institutions. (4)

Although not an object of study in relation to libraries is the mobility of patients. Patients are certainly referred from one physician

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(3) For a summary of these studies see McNamara, M., ed., "Metropolitan Detroit's Network". Bulletin of the Medical Library Association, 56:268-291, July 1968.

(4) Specific support of this statement can be found in Craig, B. "An Evaluation of Hospital Library Service to Physicians in Essex County". Wayne State University, Medical Library, Report No. 44, June 1968.

to another and over a period of time utilize different health installations. (5)

One of the explicit assumptions of the study of the metropolitan Detroit medical library network is that the basic purpose of a medical library is to provide information to assist in the delivery of health care. Although library units may be organized primarily to serve researchers and students, biomedical research and education are a social waste unless the results of these two endeavors are translated into solving individual health problems. There appears to be no justification to maintaining a specialized library as a health science library unless it is specifically organized to assist, directly or indirectly, in the delivery of health care.

Starting with the above assumption and utilizing the conclusions of the studies so far undertaken, the attitude or position in continuing investigative efforts is to avoid the inclination to judge individual institutions: the objective is to determine the best possible interinstitutional library organization that can assure access to the resources and services available within and outside the network. No realistic statements can be made in comparing the library services of two teaching-research hospitals when one maintains specialty residencies, say, in endocrinology and thoracic surgery, when the other hospital has specialty residencies in other areas as well as maintains a school of practical nursing. Research programs' library needs are even less predictable in hospital environments. Research activity is often concentrated because of the leadership of one or two individuals. The information needs between a group of researchers in oncology are different from those researchers working on drug addition. Many other factors are involved in what specific kinds of hospital library service are given and how it is given, from fiscal limitations, administrative responsibilities, availability of space, and deployment of staff. Unique institutions cannot be compared or generalized. Health care institutions within any geographic region specialize, but in the process of specialization an organization is built either by accident or design so that professional staff, resources, and facilities are shared for the benefit of individual patients.

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(5) Although not comparable, recent work from the Institute for Advancement of Medical Communication has attempted to develop measuring instruments for the performance of service given at academic medical libraries using either an arbitrary base from which all libraries using the instrument can relate their performance or through the use of monitoring devices which reveal variations in internal operations. If applied uniformly to a group of academic medical libraries, the possibility exists to make comparisons and judgments which could lead to planning and management decisions; however, the instruments are complex to construct and evaluate and require a central organization to prepare and process. See Orr, R. and others. Bulletin of the Medical Library Association, 56:235-267, July 1968 and 56:380-403, Oct. 1968.

This paper is a report of one aspect of a continuing study to demonstrate that medical library service has a specific function to perform in the delivery of health care and just as important that a medical library must be viewed just as other specialized units in the total health care facilities within a geographic area.

PREVIOUS STUDIES RELATING TO PROBLEM UNDER INVESTIGATION

The cost of hospital care has been rising steadily. It is understandable that hospital administrators evaluate each department in relation to its function in providing health care and its "income-producing" ability. No quantitative measures have been developed to demonstrate a library's direct contribution to patient care. Certainly as a department, it is not income producing. The task of justifying an existing library may take all of the library committee's time as well as a large share of the librarian's time. To initiate new services, or merely improve the quality of services already provided, is not an easy program to "sell" to financially pressed hospital administrators.

During the past four years several studies have been made on the interlibrary loan flow among health care institutions for several reasons.

1. Interlibrary loan service is a basic service for any hospital library; without this service, the hospital library can at best function only as a "current-awareness" service.

2. Each interlibrary loan transaction generates a record from which information can be relatively easily extracted.

3. Once the service is established, it has been demonstrated on several occasions that the demand for it increases which can result in a seemingly disproportionate share of the budget being given to provide the service.

4. Careful evaluation of who uses the services and identifying what is requested should provide librarians with the opportunity to understand the information needs of their users and to evaluate the quality of library collections.

Economic pressure in providing interlibrary loan services is, however, a major problem. Neither the borrowing or lending institution can continually direct more of its personnel and resources to this service without justification of its value to individual users and its usefulness to health related activities. Two approaches have been tried to determine how the information obtained through interlibrary loan is applied.

The first approach was to identify individuals in a specific hospital environment who requested interlibrary loan service. The relative amount of time each of these individuals spent in patient care, research, and teaching was determined through interview. The assumption was made that the application of information obtained through interlibrary loan would be applied in the same proportion as the individual spent in his working day. With this assumption the data from a six months study at Children's Hospital of Michigan revealed that 59% of the interlibrary loans were secured for patient care use, 29% for research purposes, and 12% for teaching purposes. (6) The data was acquired from only one institution and the assignment of functions into arbitrary units on which subsequent numerical manipulations were made were too ethereal to make definitive statements.

The second attempt was to place the requesters of interlibrary loan service of 25 hospitals for a six month period into seven categories according to their professional titles. Under these conditions attending staff, interns and residents generated 68% of the interlibrary loan requests. Only 14% of the requests were initiated by individuals whose full time duties were related to research activities. The remaining 18% of the requests were made by students, administrative personnel, nurses and other health related professionals. (7)

An effort was made to include one other aspect in these studies: assuming the short term teaching-research hospitals had a professional population with similar information needs and that generally the quality of library service was equivalent in the hospital population under study, some "standard" number of interlibrary loan requests per library user could be established; for example, a hospital library that borrowed on the average less than one item per year for its attending staff, four items per year for each intern and resident, and about an item per year for each of its other professional staff, should perhaps evaluate not only its interlibrary loan service, but all of its services. (8)

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(6) Smith, J.M.B. "Interlibrary Loan Service at Children's Hospital of Michigan". Wayne State University. Medical Library, Report No. 16, Oct. 1965.

(7) Cruzat, G.S. and Pings, V.M. "Identification of Interlibrary Loan Users...." Wayne State University. Medical Library, Report No. 37, June 1967.

(8) Ibid, Also Smith, op.cit. and Cziske, C. "A Study of Interlibrary Loans...July-December, 1965". Wayne State University. Medical Library, Report No. 21, Aug. 1966.

METHODOLOGY

For this study each user of interlibrary loan service was requested to indicate which one of four, or any combination of the four, activities to which he expected to apply the information he was to get from the documents. The activities were defined:

1. Patient care - direct and indirect health care including administrative aspects.

2. Teaching - formal lectures and teaching rounds.

3. Continuing education - attending lectures, taking courses, journal clubs, thesis work.

4. Research.

Each requester was identified by name, title, and department, if applicable.

The information was collected for a total of four weeks -- the first two weeks of November 1967 and the first two weeks of March 1968. Although other libraries participated in providing data, only the data from those libraries located in institutions which (i) provide direct health care, (ii) maintain continuing formal training programs, and (iii) have staff involved with sponsored research are included.

DISCUSSION

Sample

Because 1966 data are available on interlibrary loan service from the same institutions, an opportunity is available to make comparisons. Table 1 shows that the physician primary clientele was reduced approximately 6% between the two years in the study institution. Although this may be indicating a departure of physicians from metropolitan Detroit, it may demonstrate new policies with respect to staff appointments that have been adopted at some of the hospitals, or it may indicate a normal yearly fluctuation in staff appointments. In any event, the change in population is small. There is less than a 1% change in the resident-intern population. Because of differing personnel policies and differing definitions of library primary clientele among the study institutions changes in the number of other professional staff are not determinable; however, few institutions increase or decrease their total staff much within one year. From a statistical viewpoint variance in user population between the two sets of data is small.

Although the 1966 data were collected over a six months period and the data for this study for a four week period, the same relative proportion of interlibrary loan requests were generated by each of the three user groups. If the four week sample is extrapolated to a six month period, an astonishing doubling of requests occurred within a one year period. This is discussed in more detail below.

Dependability of Questionnaire Information

Information collected through a questionnaire usually has doubtful aspects, even under the conditions in which the information was acquired for this study. Since the respondent was asked to give his reasons for initiating an interlibrary loan request at the time he made the request, the ambiguity that arises from asking a question in which actions must be recalled is avoided. However, care must be taken in interpreting the resultant data. First, the respondent had but four choices in recording his reason for asking for the service. Although he was permitted to check more than one reason, he may not always have related his actions to a combined answer, but rather only checked what he thought at the time was the most important. In some instances, the respondent did indicate the relative importance of his request for the four alternative purposes, but was not consistently done and thus could not be used in analysis. From a librarian's viewpoint, the four choices cover all the reasons interlibrary loan service is intended; but from this sample of close to 1200 requests other purposes than the four offered must have prevailed yet no respondent indicated any. The second major difficulty of a questionnaire is that it must be stated in words. Since a wide variety of professional people working in 16 different environments provided the data, the meaning given by the respondents and their actual intentions cannot be reduced to four categories. "Research" is interpreted quite differently by the biochemist in the pathology department from that of the occupational therapist. There is no way to be sure that the resident who indicated he needed a document borrowed for patient care because he had just come from an autopsy and needed to know more about his former patient might not have given the same reason at another time because he had a patient under his care in which he needed more information to help him with a diagnostic problem.

Practically speaking, all interlibrary loan requests initiated from the study institutions were generated for patient care. All the institutions give direct patient care and even though other reasons were checked, it would not be an unreasonable assumption that each individual asking for interlibrary loan service was doing so because it would aid him in diagnostic or therapeutic actions either with a patient now under his care or for his future patients. Although there are individuals in the study institutions who are carrying out "basic" research, the number compared to a medical school with large basic science departments is small. The investigative work in these institutions involve patients and is therefore related directly to patient care.

Who Uses Interlibrary Loan Service

The 1191 interlibrary loans were generated by 185 attending physicians, 109 residents, 10 interns and 89 other professional staff.

A total of 393 different individuals needed access to the scholarly record in a four week period beyond the library resources of their institutional library. (See Table III) Although it is known that many of the attending staff have appointments in more than one of the study institutions, and that the intern and resident staff are also assigned to different institutions in their training program, none of the 393 interlibrary loan users were identified initiating requests from more than one institution. In the 1966 study 471 attending staff and 265 interns and residents and 204 other professionals initiated interlibrary loans at a rate half as large as for the present study during a six month period from the same study institutions. Perhaps some of the physicians in the 1966 study may have made requests through more than one of the study institutions; however, the data from the present study would indicate that this is a rare occurance.

These simple counts of the use of a single service (which in turn involves an agreement, formal and informal, among institutions to provide) bring up interesting, but unanswerable questions. During a four week period about 13% of the intern-resident population of the study institutions requested interlibrary loan service, yet over a six months period the number of individuals requesting the service was only increased by another 15% of the popu.ation. Theoretically, a document can be obtained through interlibrary loans in two days if owned by one of the study institutions or one of the resource libraries in the area. This speed, although possible, is rarely obtained. The more likely time is four days, and, of course, double this time if the document has to be borrowed from an institution outside the area. On the one hand, it would be surprising to some that so many individuals should ask for such a service because of the delay involved; on the other hand, if it is a useful service, why do not a larger proportion ask for the service?

Because of the interrelatedness of the attending staff appointments, a less accurate picture can be obtained, however, assuming the total number of attending physicians among the 16 hospitals is about 2000, then in the four week study about 10% of the physicians ask for the service. The year before in the six month period when the total interlibrary loan activity was less, about 20% (471) of the physician population asked for the service. If these services were not available, would these individuals seek some alternate source of information and would they have been as successful, or would they have been satisfied to proceed in their work without the information? Although not an answer to these questions, it is obvious in the steady growth of the service in the 16 study institutions, during the past five years, the service must be supplying an information need in spite of the fact that it is not immediate nor certainly absolutely dependable.

Need for Interlibrary Loan Service

Table II lists the number of requests for each group of users in each of the study institutions. Table III relates the number of

requests with the number of requesters for each of the institutions. Table IV relates the requests with the total number of individuals in 12 of the study institutions. Table V is a summary of the number of requests made by each category of users and for what reason.

Although the assumption could be made that nearly all interlibrary loan requests originating from a hospital environment could be identified as relating to patient care, the reasons for asking for interlibrary loans are viewed differently by the requesters. Of the 15 possible combination of reasons permitted in answering the questionnaire, all but three were indicated by at least one of the 393 respondents. If each of the respondents understood that he could check more than one reason for initiating a request, then the conclusion is apparent that most interlibrary loan users come to a library motivated by but one purpose at a time since over 80% of the requests were initiated for but one reason.

Research is the major reason given for the need for interlibrary loan service. Over 45% of the requests were motivated entirely or partly for this reason. Both the attending staff and other than physician staff give this as a reason for one-half the requests made; the intern and residents are perhaps less pretentious since they say only about one-third of their requests are being initiated for research purposes. All the study institutions do have some sponsored research; if the interlibrary loan requests were all related to problems arising from sponsored research, then one-half the cost of the interlibrary loan service should be borne from the hospital's research budgets. However, it is very doubtful, as discussed above, that when research was checked by the respondent, the request was not made because of a specific research problem or project, but because the respondent viewed his need as relating to a problem which was research for him.

The separation of patient care and research in the minds of the respondents may not always have been clear cut. One responsibility of hospitals which has not been appreciated to the extent it should is that it plays an important role in educating physicians. Granted, all of the study institutions have post graduate medical education programs, but the importance of a library to these programs has frequently been underplayed -- at least when it comes to fiscal considerations. One-third of the requests were initiated to support the educational functions of the hospital. A library is used by both students and teachers. That teachers may need documents beyond what are owned by his primary library has long been recognized in the American Library Association interlibrary loan code; but this code, even including the most recent revision, discourages the use of interlibrary loan service for students. The hospital, in its role as an educational institution, does not fit the pattern of the academic institution. The physician is both a teacher and a student all his life. The attending physician admits that 5% of his requests are for the purpose of continuing education; the resident group gives this reason for over one-fourth of the requests. According to the respondents, one-third of the requests were motivated by some educational program either as teachers

or as students. Good patient care is so intimately related to a good teaching program in hospitals that it is all but impossible to separate education cost from patient care costs. The conclusion appears safe from these data that a library must be an important part of a hospital's education program. Certainly the use of the library for teaching and learning (as distinct from direct patient care) must be much greater than is reflected in the interlibrary loan service.

Growth of Interlibrary Loan Service

From Table I it can be seen that the number of interlibrary loan requests more than doubled within a year in the study institutions. Since the requester population has remained essentially unchanged, such a growth in service naturally raises questions. Using other means to establish that the increase did in fact occur and was not a matter of sampling error, an effort was made to determine what changes have taken place in organization and policy within this "network-core" of teaching-research hospitals. The following list should not be interpreted as causes, but only represents changes that are known to have occurred and no judgment can be made if any one or all contributed toward the increased capability of the study institutions to support a better access service to its primary clientele.

First and perhaps most impressive is the fact that the 16 institutions have added over eight man years of library staff. In the borrowing end of the interlibrary loan transaction the cost is almost entirely that of personnel. The addition of at least part-time staff, if not permitting an expansion, has made it possible for the service to be more dependable.

Second, the substitution of facsimile copy rather than the lending of original volumes of journals has been adopted as a matter of policy by nearly all of the study institutions in providing interlibrary loan lending. Perhaps providing the requester with a copy he does not have to return has relieved the irritations involved in signing for and returning original documents so that the requester now views interlibrary loan service as a more profitable way of obtaining information than other means he may have available.

Third, nearly all study institutions have had substantial increases in their book and journal budgets in 1967 and 1968 over what was available in 1966. Eight of the libraries were recipients of aid through resource grants under the Medical Library Assistance Act. Are better library collections a factor in stimulating more requests for material, rather than less?

Fourth, nearly all interlibrary loan requests are now submitted to lending libraries on standard ALA interlibrary loan forms. In 1966 a large share of the interlibrary loan requests were still made by telephone. Has the requirement of filling out a form produced greater accuracy in identifying citations to allow the lending libraries

to respond more efficiently and dependably and thus improving the service at the receiving end even if it has meant, in some instances, the requester has had to wait longer for the material? Perhaps the use of standard forms has also increased the efficiency of operation at the borrowing library creating, from a requester's viewpoint, a better service.

Fifth, the major resource library within metropolitan Detroit has established a non-circulating policy of its journal collections. This has obviously increased the dependability of this library to supply requested journal articles through facsimile copy. Has this increase in availability, although only a relatively small increase, had its effect in providing the requester with more assurance that he can obtain what he needs and thus encourage him to make more requests?

Use of Interlibrary Loan Service by Different Groups of Requesters

With data available from two separate years from the same study institutions in which the equality of variance of one aspect of the data can be taken for granted, the requester population, with the other variable, the number of interlibrary loan requests showing a marked increase, and with known changes in organization, procedure, and policy among study institutions, the data would appear amenable to the use of the common statistical methods for comparison. Answers to two questions were sought: (1) Is it possible to predict with any degree of confidence the growth of interlibrary loan services as a whole or among any group of users, as changes in procedure and policy are effected, and (2) is there a "standard" that can be delineated in the user population for the number of requests a teaching-research hospital should expect to process for a group of users. The expectation was naive. No manipulation of the data tried resulted in any meaningful generalized statement. Although the results were negative, they are discussed in some detail to emphasize the need to search for better means to characterize the function of interlibrary loan service specifically and library services in general.

Table 1 shows that the increase in interlibrary loan requests followed the same general use-pattern between the two sets of data. The data examined institution by institution, however, does not reveal any such consistency. For example, in one of the study institutions, the number of requests processed for the attending staff decreased by 60% with a five-fold increase of requests processed for the interns and residents. The reverse of this can be found: in one instance the requests processed for interns and residents decreased by 40% while there was a three-fold increase of requests for the attending staff. Graphing the requests in an ascending array for one year, the superimposing of the second year onto the first results in an erratic curve. Unfortunately, the sample becomes too small for any kind of analysis if the known

factors of change are singled out; that is, study institutions which have increased their book and journal budgets may not have corresponding increases in staff. It would have been indeed emotionally satisfying to be able to reduce the data to a confidence limit in which a statement such as the following could be made: If certain procedures and policies are adopted by an interlibrary loan network, a given percentage increase in requests can be expected. For whatever reason, the sample size, the variations in functions and purposes of the study institutions, the complexity and interdependence of operating variables, no statistical analysis applied to the data produced such a neat result.

The other naive expectation that with additional data a generalization might be made about the relative or expected use of interlibrary loan service in teaching-research hospitals met with equal frustration in the data analysis. It would be convenient if the relatively simple direct measurement of interlibrary loan service could be used to evaluate the efficiency and quality of library service as a whole. For example, if the number of interlibrary loan requests for interns and residents dropped below or rose above a specific range, the institution's library is not operating adequately. The range of requests by interns and residents from the 1966 data went from a low of one request for every ten interns and residents to a high of nine requests for each intern and resident with 60% of the study institutions varying between one to two requests for each person in this group. The data collected for this study revealed a range of one per person to a high of 25 requests for each individual in the intern-resident group with no "clustering" as in the previous data nor is there any correlation between the two sets of data.

Because of the negative results of the detailed analysis, questions need to be asked not only about the data already collected but also for the design of further studies. The reason for the limitation of data collection to teaching-research hospitals was that the interlibrary loan programs were large enough to provide a sample within a short period of time. Further, it was expected that as institutions they formed a defineable group. From other studies it is known that there are a great number of shared appointments of the attending staffs of the study institutions. The educational programs are also interrelated in that students more from one institution to another. Does this interdependence among hospitals in a metropolitan area make each institution unique so that functions and services cannot be realistically compared? Is this interdependence confined only to metropolitan areas? The trend for regionalization of health care administration would tend to indicate that hospitals outside of metropolitan areas, if not unique now in purpose and function, may become so in the near future. Except for evaluating internal efficiency or for re-evaluating policy, studies on hospital library service made in single institutions are of little value.

Out society has become so institutionalized that the individual nature of library service is often forgotten. If the organization of hospital library service is not directed toward individual service, there would appear to be no justification for a library department -- "package libraries" could be prepared in some central location and distributed. Data from this study seem to indicate a wide variation existing in individual information needs. The change of a department head, the expansion of an educational program, and many other factors can alter drastically the delivery of service quantitatively. Perhaps a more realistic approach to the study of library service in hospitals would be to examine needs of specific specialities or other more detailed categorization of users than has so far been used.

SUMMARY AND CONCLUSIONS

A continuation of previous studies of interlibrary loan service among metropolitan Detroit health care institutions was undertaken to determine if this relatively easily collectable data could be used to provide a measurement of service or provide a base for evaluating the need for, and effectiveness of, library service. More specifically, information was sought to define more precisely the applications this service had to the purposes and functioning of hospital health science libraries.

The requester initiating an interlibrary loan transaction was asked at the time he made the request which of four, or what combination of four, activities did he expect to apply the information he would receive through this service, for (i) patient care, (ii) teaching, (iii) continuing education, or (iv) research. This information was collected for two weeks in November 1967 and for two weeks in March 1968. The information collected from this study was compared to similar information collected in the same institutions for a six month period in 1966. Information was collected on 1191 requests made by 393 different individuals. The total primary clientele in the 1966 and in the present study were essentially the same. The number of requests made during the study period doubled over the previous year although the same ratio of requests of the different groups were very nearly the same. The tentative conclusion is reached that the relative use of interlibrary loan service for the total user population remained unchanged in spite of its growth quantitatively.

The respondents indicated that 35% of the requests made were related totally or in part to patient care. A similar proportion were initiated for educational purposes, either for teaching or continuing education. Almost half (47%) of the requests were motivated at least in part for research purposes. Although this direct method of ascertaining the relative use made of an admittedly expensive library service may give some indication of its importance in a hospital environment, the method has many weaknesses: the definitions of activity may be clear from a librarian's viewpoint, but the definitions have different meanings to

users; particularly when the user population is scattered in 16 different teaching-research hospitals.

Because some of the information of this study is similar to that collected from the same institutions in 1966, it was expected that analysis of the data would reveal some consistent pattern and/or trend. This expectation was not realized. No pattern was discernible when the data was compared among institutions for the two time periods. The following observations from this and previous studies, although not providing neat answers to specific answers, nevertheless appear to be significant.

1. Many factors are involved in the provision of interlibrary loan service and simple counts of users and requests cannot be used for description for predictive purposes of service on an institution-by-institution basis.

2. Because the data reveal such a remarkably consistent pattern if summarized for all 16 of the study institutions, but reveal an equally remarkable inconsistency if compared institution-by-institution over two time periods, study of library service in a single hospital environment is a futile exercise unless (i) it relates to its own internal operating efficiency, (ii) it relates to environment beyond its institutional walls, or (iii) a large number and at the same time a more precise measure of variables are included.

3. An alternative observation to the above is (i) that the 16 study institutions are unique as separate institutions and hence not comparable with each other and/or (ii) that library service as measured in this study shows a high institutional interdependence.

4. If access to the scholarly record for the delivery of health care is accepted as a requirement in hospital environments, perhaps a fruitful approach to the study, planning, development and management of this access service should be done on an interinstitutional basis rather than expending effort in trying to define what a single hospital library ought to be or ought to do: standards and guidelines for hospital libraries might better be defined in terms of a library's ability to obtain documents and information for its primary clientele from other institutions and conversely of a library's ability and willingness to share its resources and library expertise with other institutions.

ACKNOWLEDGEMENTS

Without the willingness of the library users to fill out the questionnaires, the study obviously would not have been possible. Above all, the cooperative spirit of the 16 hospital health science librarians who saw to it that the 393 individuals who contributed the information were willing to do so must be commended. It is also a testimony and a

proof of their desire to provide better library service. Collecting data is extra work, and it is hoped that each of these librarians feel that the effort was worth it. Miss Mary Peltier of the Detroit Department of Health also contributed data which was not incorporated into the study because at the time of the original tabulation it was felt that the Detroit Department of Health's purposes and functions were different from the 16 study institutions. In view of the results it is now clear that these data should have been included because it would have added to the "network" concept. Barbara Harrish Stuecker designed the questionnaire,and did the follow-up work to make the data as complete as it is. Miss Lauree Webb and Irvin Chmielewski undertook the task of tabulating the data.

Table No. 1. Interlibrary Loan Requests Initiated During a Six Month Period in 16 Teaching-Research Hospitals in 1966 and Calculated for a Similar Period for 1967-68

1966*

	Number	Number of ILL Requests (6 months)	% of Total Requests	Requests per Person
Attending Staff	3274	1792	47	0.5
Residents-Interns	899	1236	32	1.4
All other staff	-	786	21	-

1967-68

	Number	Number of ILL Requests (4 weeks)	% of Total Requests	Projected 6 Month ILL Requests	Requests per Person
Attending Staff	3077	557	47	3621	1.1
Residents-Interns	907	413	35	2685	2.9
All other staff	-	221	18	1435	-

*Source: G. Cruzat and V. Pings. Identification of Interlibrary Loan Users.... Wayne State University Medical Library, Report No. 37, June 1966.

Table No. 11. Reasons Given by Users for Initiating Each Interlibrary Loan Request

	CHILDREN'S					GRACE					HARPER					HENRY FORD					HERMAN KIEFER				
	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total
Patient care	5	2	-	1	8	20	20	3	5	48	6	1	-	3	10	4	-	-	1	5	-	-	-	-	-
Teaching	10	-	-	-	10	-	8	-	-	8	4	12	-	2	18	1	4	-	1	6	-	-	-	1	1
Continuing education	-	1	-	6	7	1	18	-	-	19	8	-	-	1	9	-	3	-	5	8	-	-	-	-	-
Research	35	6	-	21	62	5	16	-	1	22	65	13	1	3	82	6	6	-	4	16	-	1	-	-	1
Patient care & teaching	3	3	1	-	7	2	-	-	5	7	-	-	-	-	-	3	-	-	-	3	-	-	-	-	-
Patient care & continuing education	-	-	-	1	1	3	-	-	-	3	-	-	-	-	-	1	2	-	1	4	-	-	-	-	-
Patient care & research	2	1	-	9	12	-	2	-	-	2	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-
Teaching & continuing education	-	3	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Teaching & research	3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	1
Continuing education & research	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	2	-	-	-	-	-
Patient care, teaching & continuing education	2	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Patient care, teaching, research and continuing education	-	3	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	60	19	1	38	118	31	64	3	11	109	83	26	1	9	119	18	16	-	12	46	-	1	-	2	3
Percent of total requests	51	16		32		28	59	3	10		70	22		8		39	35	-	26						

Table No. II. Reasons Given by Users for Initiating Each Interlibrary Loan Request (Cont'd)

	HUTZEL					LAFAYETTE					METROPOLITAN					MT. CARMEL					PLYMOUTH				
	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total
Patient care	9	4	-	1	14	-	1	-	1	2	4	-	-	-	4	1	2	1	2	6	3	-	-	1	4
Teaching	-	-	-	-	-	13	12	-	2	27	3	-	-	-	3	2	3	-	-	5	-	-	-	-	-
Continuing education	3	-	-	7	10	-	-	-	1	1	-	-	-	-	-	1	32	3	2	38	-	-	-	-	-
Research	2	2	-	7	11	17	10	-	19	46	-	-	-	3	3	12	14	4	3	33	1	-	-	3	4
Patient care & teaching	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	12	-	-	12	-	-	-	-	-
Patient care & continuing education	-	-	-	5	5	-	10	-	-	10	-	-	-	-	-	-	6	-	-	6	-	-	-	-	-
Patient care & research	6	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2	-	-	-	-	-
Teaching & continuing education	-	-	-	1	1	-	4	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Teaching & research	-	-	-	-	-	1	-	-	1	2	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-
Continuing education & research	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	5	-	-	-	-	-
Patient care, teaching & continuing education	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Patient care, teaching, research and continuing education	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	21	6	-	21	48	31	37	-	24	92	7	-	-	3	10	16	76	8	8	108	4	-	-	4	8
Percent of total requests	44	12	-	44		34	40	-	16							15	70	7	7						

Table No. II. Reason Given by Users for Initiating Each Interlibrary Loan Request (Cont'd)

	REHABILITATION					ST.JOHN					ST. JOSEPH					SINAI					VETERANS					WILLIAM BEAUMONT					SUMMARY				
	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total	Staff	Residents	Interns	Other	Total
Patient care	1	-	-	3	4	14	7	9	1	31	1	-	-	1	2	28	3	-	1	32	-	-	-	-	-	30	34	-	5	69	126	74	13	26	239
Teaching	1	-	-	4	5	14	2	-	-	16	2	1	-	-	3	3	-	-	4	7	4	-	-	-	4	1	-	-	5	6	58	42	-	19	119
Continuing education	1	-	-	10	11	1	17	3	10	31	-	-	-	-	-	11	11	-	1	23	-	-	-	-	-	-	-	-	-	-	26	82	6	43	157
Research	-	-	-	6	6	5	8	4	24	41	-	-	-	-	-	14	1	-	-	15	4	2	-	6	12	81	35	-	4	120	247	114	9	104	474
Patient care & teaching	-	-	-	-	-	6	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	-	-	-	37	52	15	1	5	73
Patient care & continuing education	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	1	1	4	19	-	8	31
Patient care & research	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	5	-	-	-	5	-	-	-	-	-	12	14	-	2	28	26	20	-	11	57
Teaching & continuing education	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	1	1	1	7	-	2	9
Teaching & research	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	7	-	-	-	7	13	-	-	3	16
Continuing education & research	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	2	-	-	-	-	-	-	1	-	-	1	2	8	-	-	10
Patient care, teaching & continuing education	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	2
Patient care, teaching, research and continuing education	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	3
Total	3	-	-	23	26	40	35	16	35	126	3	1	-	1	5	64	17	-	6	87	8	2	-	6	16	168	84	-	18	270	557	384	29	221	1191
Percent of total requests	12			88		32	28	13	28							74	19	-	7							62	31	-	7						

Table No. III. The Number of Interlibrary Loan Requests Generated and by Whom in 16 Health Care Institutions

	CHILDREN'S		GRACE		HARPER		HENRY FORD		HERMAN KIEFER		HUTZEL		LAFAYETTE		METROPOLITAN		MT. CARMEL		PLYMOUTH		REHABILITATION		ST. JOHN		ST. JOSEPH		SINAI		VETERANS		WILLIAM BEAUMONT		TOTAL	
	Requests	Users	Requests	Users	Requests	Users	Requests	Users	Requests	Users	Requests	Users	Requests	Users	Requests	Users	Requests	Users	Requests	Users	Requests	Users	Requests	Users	Requests	Users	Requests	Users	Requests	Users	Requests	Users	Requests	Users
November 1967																																
Staff	24	12	14	7	22	10	5	5	0	0	17	9	30	8	7	2	15	5	1	1	3	3	24	5	3	3	40	25	8	3	90	14	303	157
Residents	11	5	50	14	5	2	4	4	1	1	0	0	32	8	0	0	37	9	0	0	0	0	21	5	1	1	3	2	0	0	17	7	182	58
Interns	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	4	3	0	0	0	0	0	0	0	0	6	5
Other	5	3	1	1	6	5	4	4	1	1	16	5	6	3	3	3	2	2	0	0	8	4	19	5	1	1	3	1	0	0	7	3	82	41
Total	41	21	65	22	33	17	13	13	2	2	32	14	68	19	10	5	55	17	1	1	11	7	68	17	5	5	46	28	8	3	114	24	573	261
March 1968																																
Staff	36	9	17	8	61	14	13	12	0	0	4	3	1	1	0	0	1	1	3	1	0	0	16	7	0	0	24	21	0	0	78	15	254	92
Residents	8	3	14	6	21	8	12	8	0	0	6	2	5	2	0	0	39	11	0	0	0	0	14	3	0	0	14	9	2	1	67	8	202	61
Interns	0	0	3	1	1	1	0	0	0	0	0	0	0	0	0	0	7	1	0	0	0	0	12	2	0	0	0	0	0	0	0	0	23	5
Other	33	10	10	2	3	3	8	7	1	1	5	3	18	6	0	0	6	4	4	2	15	5	16	6	0	0	3	2	6	1	11	5	139	57
Total	77	22	44	17	86	26	33	27	1	1	15	9	24	9	0	0	53	17	7	3	15	5	58	18	0	0	41	32	8	2	156	28	618	215
Total Nov. and Mar. 1968																																
Staff	60	19	31	15	83	21	18	17	0	0	21	11	31	9	7	2	16	5	4	1	3	3	40	10	3	3	64	42	8	3	168	24	557	185
Residents	19	7	64	18	26	10	16	12	1	1	6	2	37	8	0	0	76	18	0	0	0	0	35	7	1	1	17	10	2	1	84	14	384	109
Interns	1	1	3	1	1	1	0	0	0	0	0	0	0	0	0	0	8	2	0	0	0	0	16	5	0	0	0	0	0	0	0	0	29	10
Other	38	11	11	3	9	8	12	9	2	2	21	7	24	8	3	3	8	6	4	2	23	9	35	10	1	1	6	2	6	1	18	7	221	89
Total	118	38	109	37	119	40	46	38	3	3	48	20	92	25	10	5	108	31	8	3	26	12	126	32	5	5	87	52	16	5	270	45	1191	393

Table No. IV. Use of Interlibrary Loan Service in Twelve Teaching-Research Hospitals

	Total Requests	Total Staff	No. of Requests for each Staff/Year	Users per Month	% of Total Staff	Average No. of Requests per Month per Staff	Total Residents	No. of Requests for each Resident/year	Users per Month	% of Total Residents	Average No. of Requests per Month per Resident	Total Interns	No. of Requests for each Intern/year	Users per Month	% of Total Interns	Average No. of Requests per Month per Intern	Total Other Professional Staff	No. of Requests for each Staff/year	Users per Month	% of Total	Average No. of Requests per Month per User
Children's	118	313	2.3	19	6	3.1	40	12.0	7	18	2.7	8	1.5	1	12	0.1	248	1.4	11	5.0	3.5
Grace	109	425	0.9	15	4	2.0	71	10.8	18	25	3.5	13	3.0	1	8	1.5	861	0.2	3	0.3	3.7
Harper	119	419	2.4	21	5	4.0	108	2.9	10	38	2.6	7	0	0	0	0	351	0.2	8	2.3	1.1
Henry Ford	46	149	1.4	17	11	1.0	257	0.8	12	5	1.3	26	0	0	0	0	580	0.2	9	1.6	1.3
Hutzel	48	253	0.6	11	8	1.9	21	3.4	2	10	3.0	4	0	0	0	0	135	1.2	7	5.0	3.0
Lafayette	92	30	12.0	9	30	3.4	35	5.5	8	2	4.6	0	0	0	0	0	97	1.7	8	8.2	3.0
Mt. Carmel	108	308	0.5	5	1	3.2	36	25.2	18	50	3.7	15	6.3	2	13	4.0	381	0.2	6	2.0	1.3
Plymouth	8	10	4.8	1	10	4.0	0	0	0	0	0	1	0	0	0	0	357	1.3	2	0.1	2.0
Rehabilitation	26	10	3.6	3	3	1.0	2	0	0	0	0	0	0	0	0	0	105	1.6	9	9.0	2.5
St. John	126	269	1.8	10	4	4.0	26	16.1	7	27	5.0	21	9.3	5	23	3.2	?	?	10	?	3.5
Sinai	87	421	1.8	42	10	1.5	47	4.3	10	21	1.7	11	0	0	0	0	479	0.2	2	0.1	3.0
Wm. Beaumont	270	318	6.3	24	7	7.0	74	13.6	14	19	6.0	15	0	0	0	0	596	0.4	7	0.3	2.6

Table No. V. Reasons Given for the Iniation of 1191 Interlibrary Loan Requests in 16 Teaching-Research Hospitals

	Attending Staff Requests	% of Requests	Resident's Requests	% of Requests	Intern's Requests	% of Requests	Other Staff Requests	% of Requests	Total	% of Requests
Patient care	126	23	74	19	13	45	26	12	239	20
Teaching	58	10	42	11	-	-	19	8	119	10
Continuing Education	26	5	82	21	6	21	43	19	157	13
Research	247	44	114	30	9	31	104	47	474	40
Patient care and teaching	52	9	15	4	1	3	5	2	73	6
Patient care and continuing education	4	-	19	5	-	-	8	4	31	3
Patient care and research	26	5	20	5	-	-	11	5	57	5
Teaching & continuing education	1	>1	7	2	-	-	2	>1	9	>1
Teaching & research	13	2	-	-	-	-	3	>1	16	1
Continuing education & research	2	>1	8	2	-	-	-	-	10	>1
Patient care, teaching & continuing education	2	>1	-	-	-	-	-	-	2	>1
Patient care, teaching, research and continuing education	-	-	3	>1	-	-	-	-	3	>1
Total	557		384		29		221		1191	
Percent of total requests	47		32		2		19		100	